UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/779,915	02/17/2004	Menzo Havenga	2578-4509.2US	9561

24247 7590 11/29/2005

TRASK BRITT
P.O. BOX 2550
SALT LAKE CITY, UT 84110

EXAMINER	
WHITEMAN, BRIAN A	
ART UNIT	**PAPER NUMBER**
1635	

DATE MAILED: 11/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/779,915	HAVENGA ET AL.	
	Examiner	Art Unit	
	Brian Whiteman	1635	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *17 February 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☒ Certified copies of the priority documents have been received in Application No. 09/928,262.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *2/17/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Non-Final Rejection

Claims 1-19 are pending.

Priority

The status of the parent application (now a US Patent) needs updated on page 1 of the instant specification.

Information Disclosure Statement

The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

The examiner has considered the US application(s) cited on the paper filed on 2/17/04 but not listed on the PTO-1449.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.\

Claims 1-19 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a method of delivering of delivering a nucleic acid of interest to a primary human chondrocyte *in vitro* comprising infecting the isolated human chondrocyte with a recombinant adenovirus having a tropism for primary human chondrocyte, wherein said tropism is provided by at least a tropism determining a part of an adenoviral fiber protein of an adenoviral fiber protein of a B-type adenovirus, does not reasonably provide enablement for a method for delivering a nucleic acid of interest to a primary chondrocyte comprising providing a recombinant adenovirus having a tropism for primary human chondrocytes and for a method of inhibiting cartilage disease progression or repairing cartilage in a human using the claimed recombinant adenovirus. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims.

> Factors to be considered in determining whether a disclosure would require undue experimentation have been summarized in In re Wands, 858 F.2d 731, 8USPQ2d 1400 (Fed. Cir. 1988). They include (1) the quantity of experimentation necessary, (2) the amount of direction or guidance presented, (3) the presence or absence of working examples, (4) the nature of the invention, (5) the state of the prior art, (6) the relative skill of those in the art, (7) the predictability or unpredictability of the art, and (8) the breadth of the claims.

The claimed invention is directed to making a recombinant adenovirus having a tropism for primary human chondrocytes and using the adenovirus for delivering a nucleic acid to a primary human chondrocytes. More specifically, the claimed invention is directed to using the adenovirus in a method of inhibiting cartilage disease progression or repairing cartilage in a subject. In view of the instant specification (see abstract), one skilled in the art would reasonably determine that the only usage for delivering a nucleic acid to a chondrocyte in vivo is for use in a method of DNA therapy (producing a protein at a therapeutic level in a subject). The invention lies in the field of gene therapy for treating a cartilage disorder in a subject.

Furthermore, and with respect to claims directed to any adenoviral vector useful for gene therapy and directed to any treatment of a human; the state of the art exemplified by Anderson et al., *Nature*, Vol. 392, pp. 25-30; 1998, displays major consideration for any gene transfer or any DNA therapy protocol involve issues that include:

1) The type of vector and amount of DNA constructs to be administered,

2) The route and time course of administration, the sites of administration, and successful uptake of the claimed DNA at the target site;

3) The trafficking of the genetic material within cellular organelles, the rate of degradation of the DNA, the level of mRNA produced, the stability of the mRNA product, the amount and stability of the protein produced, and

4) What amount of the expressed proteins considered to be therapeutically effective for a DNA therapy method.

In addition, all of these issues differ dramatically based on the specific vector used, the route of administration, the animal being treated, therapeutically effective amount of the DNA, and the disease being treated.

Anderson teaches that gene therapy is a powerful new technology that still requires several years before it will make a noticeable impact on the treatment of disease, and that several major deficiencies still exist including poor delivery systems, both viral and non-viral, and poor gene expression after genes are delivered (pp. 25-30).

Anderson further teaches that the reason for the low efficiency of gene transfer and expression in human patients is that we still lack the basis understanding of how vectors should be constructed what regulatory sequences are appropriated for which cell types (page 30, column

1, last paragraph). Furthermore, Verma, *Nature*, Vol. 389, pages 239-242, 1997, indicates that factors including the nature of the diseases and/or disorders, the nature of a DNA and/or target tissue, and a delivery system and/or amounts of the DNA complexes employed in the delivery system that would generate a therapeutic effect *in vivo* must be considered for any gene therapy method to be successful (page 238, columns 1 and 2).

In addition, gene transduction to chondrocytes has not been well studied (Arai et al. J Rheumatol, Vol. 24, pp. 1787-95, 1997). Many proteins have been reported to protect articular cartilage and are believed to have use as anti-arthritic proteins. However, conventional delivery systems such as oral, intravenous, intramuscular, or intraarticular administration have problems in delivering a drug to a specific joint and maintaining long term therapeutic effect (Arai, page 1787). Arai further states that, "if we can transduce chondroprotective genes into chondrocytes of cartilage, this could be efficient therapy for joint disorders (pages 1787 and 1792)." The art of record further teaches that in vivo methods do not deliver enough genes to chondrocytes in cartilage (Ikeda et al., The Journal of Rheumatology, Vol. 27, pp. 990-6, 2000 and Nixon et al. Clinical Orthopaedics and Related Research, Vol. 379S, pp. S201-213, 2000).

Thus, the state of the art for gene therapy for treating a cartilage disorder is considered unpredictable.

The specification provides examples to illustrate the present invention: Example 1 is the generation of adenovirus serotype 5 genomic 15 plasmid clones. Example 2 is the generation of adenovirus serotype 5 based viruses with chimer fiber proteins. Example 3 is the production, purification and titration of fiber chimeric adenoviruses. Example 4 is testing for the expression on primary chondrocytes for membrane molecules known to be involved n Ad5 infection.

Examples 5-7 are adenovirus transduction of human primary human chondrocytes *in vitro*, wherein the adenovirus comprises a marker gene.

The specification only provides sufficient guidance for a method of delivering of delivering a nucleic acid of interest to a primary human chondrocyte *in vitro*. The specification does not provide a working example for the claimed method of treating a cartilage disorder using the claimed recombinant adenovirus. Applicants teach the use of recombinant adenovirus to express a marker gene in cells in vitro. However, the relevance of this data to treating a cartilage disease is unclear at best because neither the applicants nor the prior art provide a correlation or nexus between the results obtained in vitro studies such as those provided by applicants with results which the skilled artisan would reasonably expect to see in vivo. The art of record teaches the unpredictability of *in vivo* delivery of a nucleic of interest to a specific cell (chondrocytes) in a human (see Anderson, Verma, Ikeda). The art of record further teaches that *in vivo* methods do not deliver enough genes to chondrocytes in cartilage to generate a therapeutic response for treating a cartilage disorder in a human (see Ikeda). Therefore, the specification does not provide sufficient description or factual evidence for one skilled in the art to make and use the claimed invention.

Furthermore, with respect to the claims that encompass a recombinant adenoviral vector comprising a specific nucleotide sequence of interest not operatively linked to a promoter. The specification provides sufficient guidance for one skilled in the art to make and use a recombinant adenovirus vector, which expresses a nucleic acid of interest comprising a promoter operatively linked to the nucleic acid of interest. However, the specification fails to provide sufficient guidance or evidence for one skilled in the art to make and use a recombinant

adenovirus, which expresses a nucleic acid of interest comprising a promoter that is not operatively linked to any specific nucleotide sequence in the recombinant adenovirus. The teachings in the specification are directed to using a promoter to express the sequence. The as-filed specification provides guidance or evidence for how to make and use adenoviral vectors comprising a promoter operatively linked to a nucleotide sequence to direct nucleotide expression, however the claims do not recite such a structural limitation. Thus, to the extent the claims fail to recite distinguishing features to commensurate with the level of guidance presented, the claims are not considered enabled.

As a result, it is not apparent how one skilled in the art determines, without undue experimentation, which of the claimed recombinant adenovirus generates a therapeutic effect, how is it apparent as to how one skilled in the art, without any undue experimentation, practices any nucleic acid therapy method as contemplated by the claims, particularly given the unpredictability of nucleic acid therapy as a whole and/or the doubts expressed in the art of record.

In conclusion, the specification and claims coupled with the art of record, at the time the invention, was made only provide sufficient guidance and/or evidence to reasonably enable the for a method of delivering of delivering a nucleic acid of interest to a primary human chondrocyte *in vitro* comprising infecting the isolated human chondrocyte with a recombinant adenovirus having a tropism for primary human chondrocyte, wherein said tropism is provided by at least a tropism determining a part of an adenoviral fiber protein of an adenoviral fiber protein of a B-type adenovirus. Given that making a recombinant adenovirus vector comprising a promoter not operatively linked to a nucleotide sequence in the adenoviral vector was

unpredictable at the time the invention was made, and given that gene therapy wherein any adenoviral vector is employed to correct a disease or a medical condition in any human was unpredictable at the time the invention was made, and given the lack of sufficient guidance as to a gene therapy effect produced by any gene delivery vector cited in the claims, one skilled in the art would have to engage in a large quantity of experimentation in order to practice the claimed invention based on the applicants' disclosure and the unpredictability of gene therapy.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in-
> (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or
> (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

Claims 1-5 are rejected under 35 U.S.C. 102(e) as being anticipated by Vogels et al. (US 6,869,936).

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Vogels teaches delivering a nucleic acid to a chondrocyte comprising administering to the chondrocytes a recombinant adenovirus comprising a nucleic of interest and a nucleic acid encoding fiber protein of a B-type adenovirus and a nucleic acid comprising an adenovirus type 5 nucleic acid sequence (columns 29-35).

Claims 1-5 are rejected under 35 U.S.C. 102(e) as being anticipated by Vogels et al. (US 20040142473).

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Vogels teaches delivering a nucleic acid to a chondrocyte comprising administering to the chondrocytes a recombinant adenovirus comprising a nucleic of interest and a nucleic acid encoding fiber protein of a B-type adenovirus and a nucleic acid comprising an adenovirus type 5 nucleic acid sequence (pages 4, 6, and 19).

Claims 1, 2, and 5-9 are rejected under 35 U.S.C. 102(e) as being anticipated by Crystal et al (US 6939540). Crystal teaches delivering a nucleic acid to a chondrocyte using a recombinant adenovirus, wherein the adenovirus can be from subgroup A-F (columns 2 and 6). Crystal teaches the limitation in instant claim 5 (column 6). Crystal teaches delivering a nucleic

acid encoding BMP (columns 2-3). Crystal further teaches the limitation in instant claims 8 and 9 (columns 2-3).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or non-obviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-6 are rejected under 35 U.S.C. 103(a) as being obvious over Vogels et al. (US 6,869,936) taken with Arai et al. (IDS).

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(l)(1) and § 706.02(l)(2).

However, Vogels does not specifically teach using a nucleic acid encoding an amino acid sequence that inhibits cartilage disease progression or that counteracts the loss of cartilage.

However, at the time the invention was made, Arai teaches adenovirus vector-mediated gene transduction to human chondrocytes *in vitro*, wherein the adenovirus vector comprises a nucleic acid sequence that encodes an amino acid sequence that inhibits cartilage disease progression, heat shock protein 70 and transforming growth factor beta-1 (TGF-beta1) (page 1788). Furthermore, the adenovirus lacks E1A, E1B, and E3 regions (page 1788).

It would have been *prima facie* obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Vogels taken with Arai to make and use a recombinant adenovirus comprising a nucleic acid encoding an amino acid sequence that inhibits cartilage disease progression to deliver said nucleic acid to primary human chondrocytes. One of ordinary skill in the art would have been motivated to combine the teachings to study the gene expression of TGF-beta1 in primary human chondrocytes using adenoviral mediated gene transduction.

Therefore the invention as a whole would have been *prima facie* obvious to one ordinary skill in the art at the time the invention was made.

Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vogels et al. (US 6,869,936) taken with Arai et al. (IDS) as applied to claims 1-5 above, and in further view of either Duprez et al. (IDS) or Noh et al. (IDS).

However, Vogels taken with Arai do not specifically teach an adenovirus vector-mediated gene transduction to a primary human chondrocytes comprising delivering a recombinant adenovirus vector comprising a nucleic acid encoding a bone morphogenesis protein (BMP).

However, at the time the invention was made, Duprez teaches that BMP are members of the growth factor beta (TFG-beta) superfamily, which are involved in a range of developmental processes. Over-expression of BMP-2 or BMP-4 led to a dramatic increase in the volume of cartilage elements. Furthermore, Noh teaches a method of treating cartilage using a vector

comprising a nucleotide sequence encoding a member of the transformation growth factor superfamily, including BMP (column 3, lines 13-61).

It would have been *prima facie* obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Vogels taken with Arai in further view of either Duprez or Noh to make and use a recombinant adenovirus comprising a nucleic acid encoding a BMP to deliver said nucleic acid to primary human chondrocytes. One of ordinary skill in the art would have been motivated to combine the teachings to study the expression of BMP-2 or BMP-4 in primary human chondrocytes using adenoviral mediated gene transduction.

In addition, it would have been *prima facie* obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Vogels taken with Arai in further view of either Duprez or Noh to make a chondrocyte comprising a recombinant adenovirus comprising a nucleic acid encoding a BMP-2 and BMP-4 to deliver said nucleic acid to primary human chondrocytes. One of ordinary skill in the art would have been motivated to combine the teachings to studying the expression of increase in the volume of cartilage elements using the expression of both BMP-2 and BMP-4 in primary human chondrocytes using adenoviral mediated gene transduction.

Therefore the invention as a whole would have been *prima facie* obvious to one ordinary skill in the art at the time the invention was made.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed.

Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-9 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-10 of U.S. Patent No. 6,803,234. Although the conflicting claims are not identical, they are not patentably distinct from each other because both set of claims are directed to delivering a nucleic acid to a chondrocytes comprising administering a recombinant adenovirus comprising a nucleic acid of interest and nucleic acid encoding at least a part of a fiber protein of a B-type adenovirus.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Whiteman whose telephone number is (571) 272-0764. The examiner can normally be reached on Monday through Friday from 7:00 to 4:00 (Eastern Standard Time), with alternating Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Wang, acting SPE – Art Unit 1635, can be reached at (571) 272-0811.

Papers related to this application may be submitted to Group 1600 by facsimile transmission. Papers should be faxed to Group 1600 via the PTO Fax Center located in Crystal Mall 1. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The CM1 Fax Center number is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to (571) 272-0547.

Patent applicants with problems or questions regarding electronic images that can be viewed in the Patent Application Information Retrieval system (PAIR) can now contact the USPTO's Patent Electronic Business Center (Patent EBC) for assistance. Representatives are available to answer your questions daily from 6 am to midnight (EST). The toll free number is (866) 217-9197. When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also check PAIR to confirm that the problem has been corrected. The USPTO's Patent Electronic Business Center is a complete service center supporting all patent business on the Internet. The USPTO's PAIR system provides Internet-based access to patent application status and history information. It also enables applicants to view the scanned images of their own application file folder(s) as well as general patent information available to the public.

For all other customer support, please call the USPTO Call Center (UCC) at 800-786-9199.

Brian Whiteman
Patent Examiner, Group 1635